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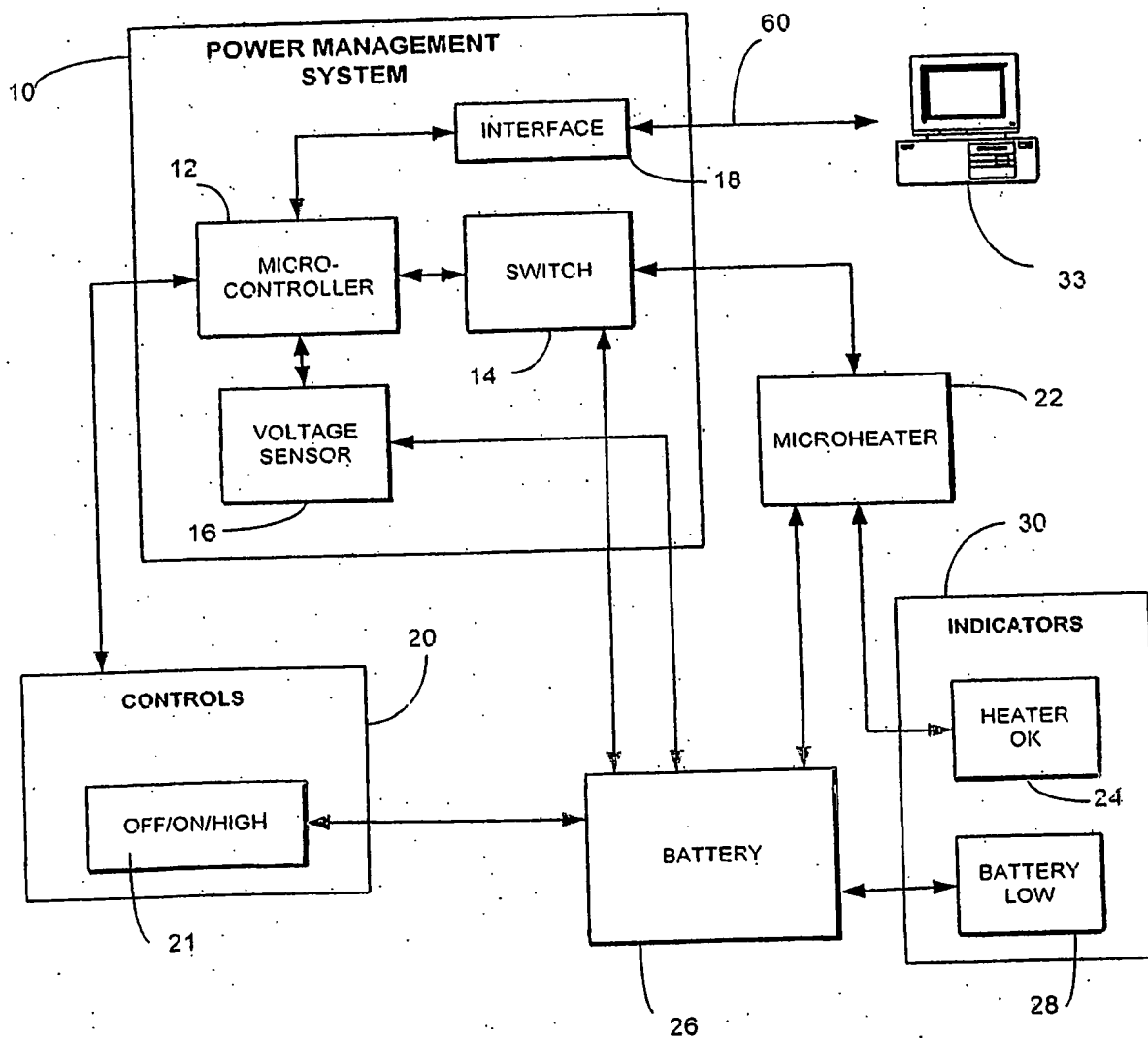


FIGURE 1

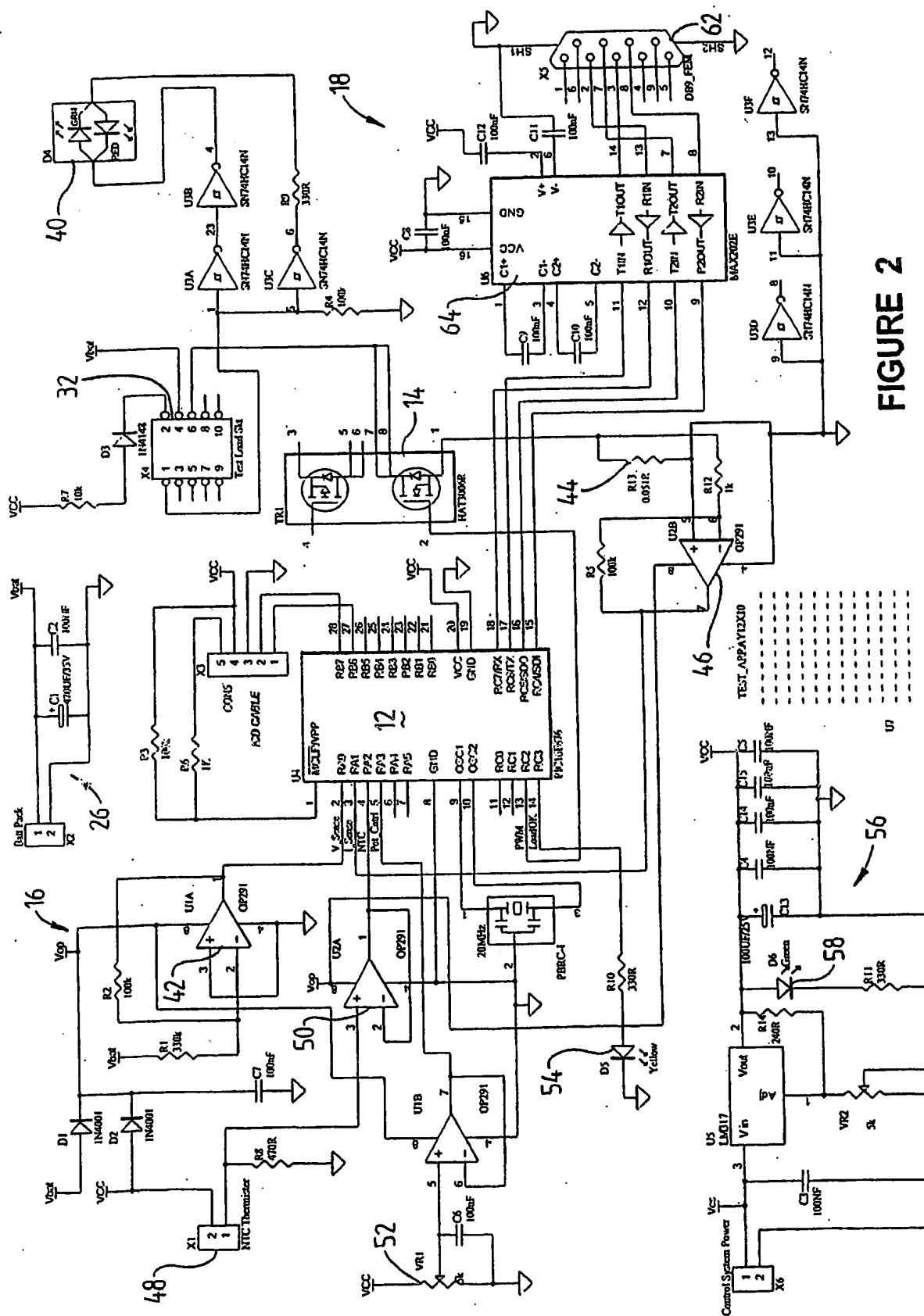


FIGURE 2

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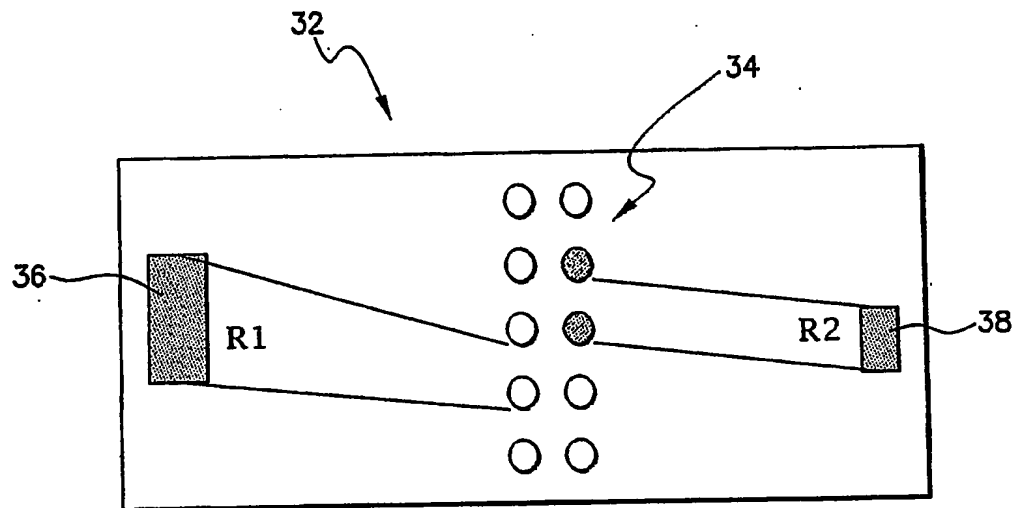
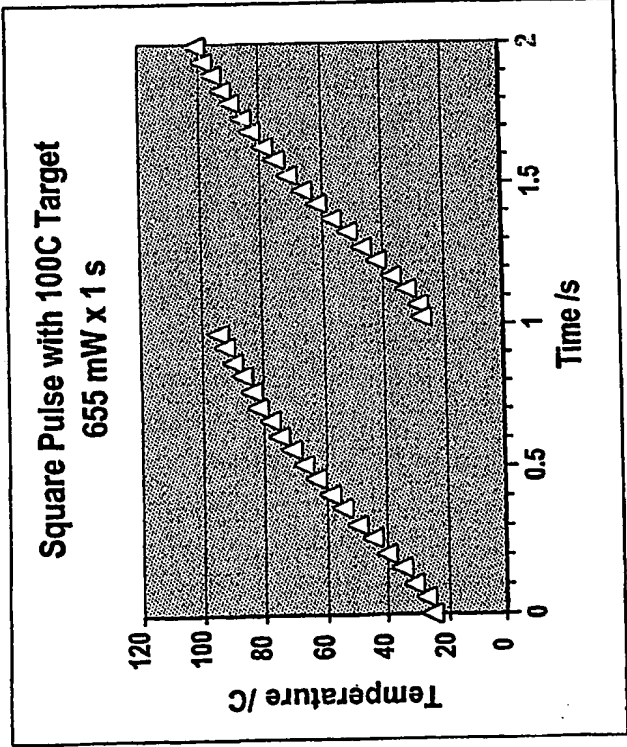


FIGURE 3

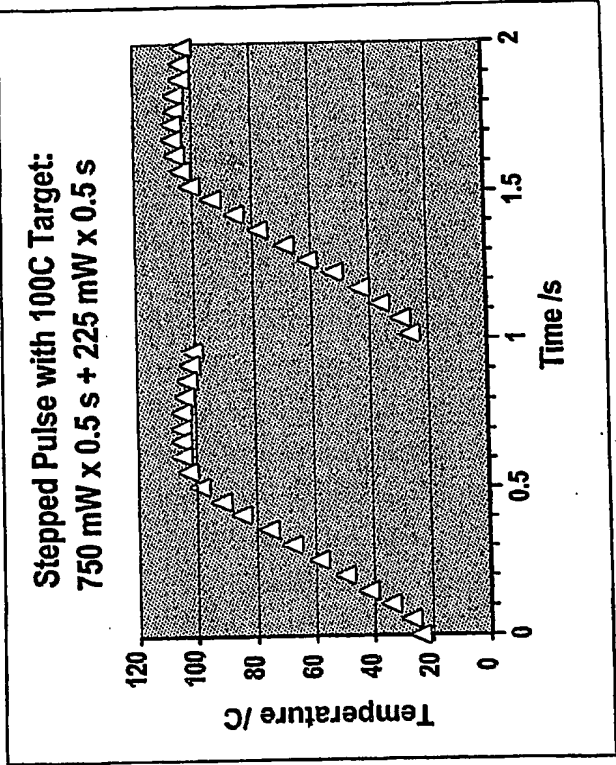
Temperature Measurements

Energy efficiency of simple and compound pulses

Target temperature 100C, duration 1s



Energy Cost: 655 mJ/pulse



Energy Cost: 485 mJ/pulse

25% energy saving, temperature maintained longer

FIGURE 4

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Performance: Delivery Rates

0603

4R7

2 x AA

3V

 $T_{on} = 0.3 \text{ s}$ $T_{pulse} = 1.7 \text{ s}$ $T_{cycle} = 60 \text{ s}$

% Pulse = 50%

Adaptive Mode

80 μm wick

100% 51264

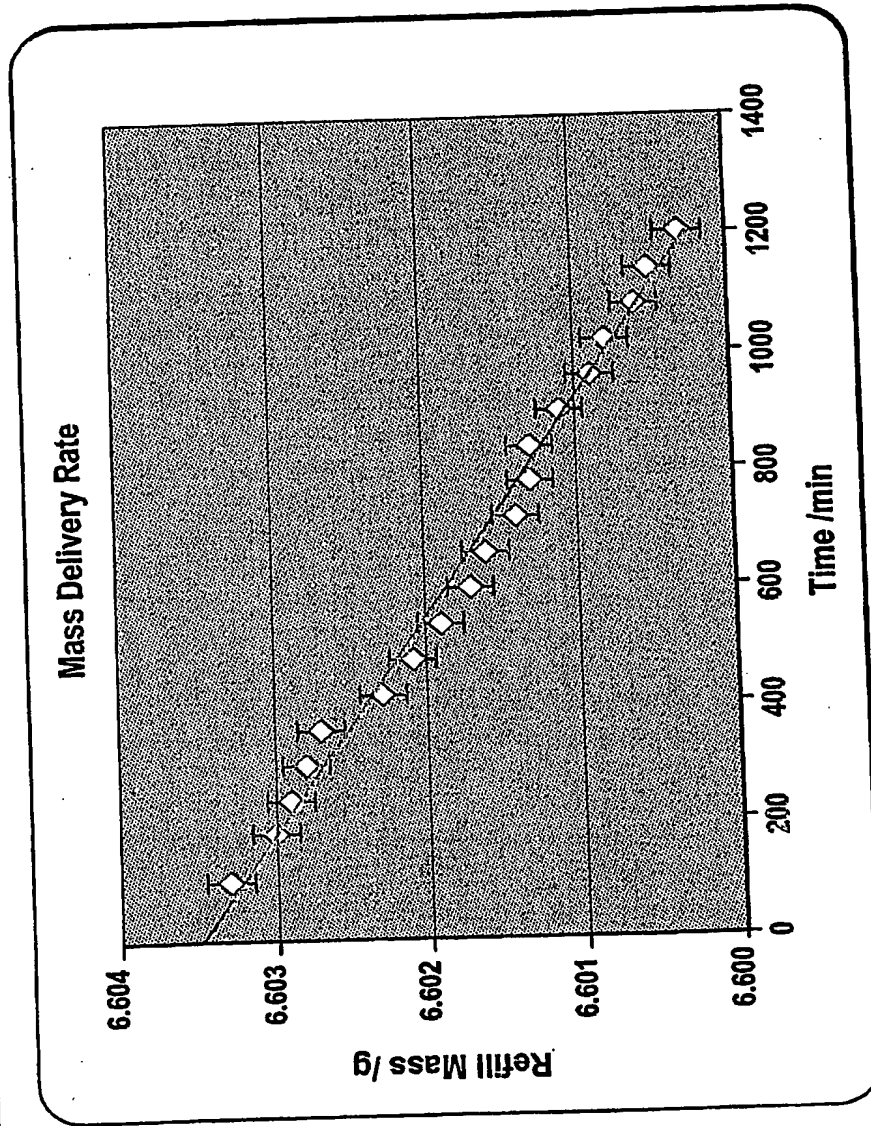
Delivery Rate = 160 $\mu\text{g/hr}$

FIGURE 5

Performance: Battery Lifetime

4R7

2 x AA

3V

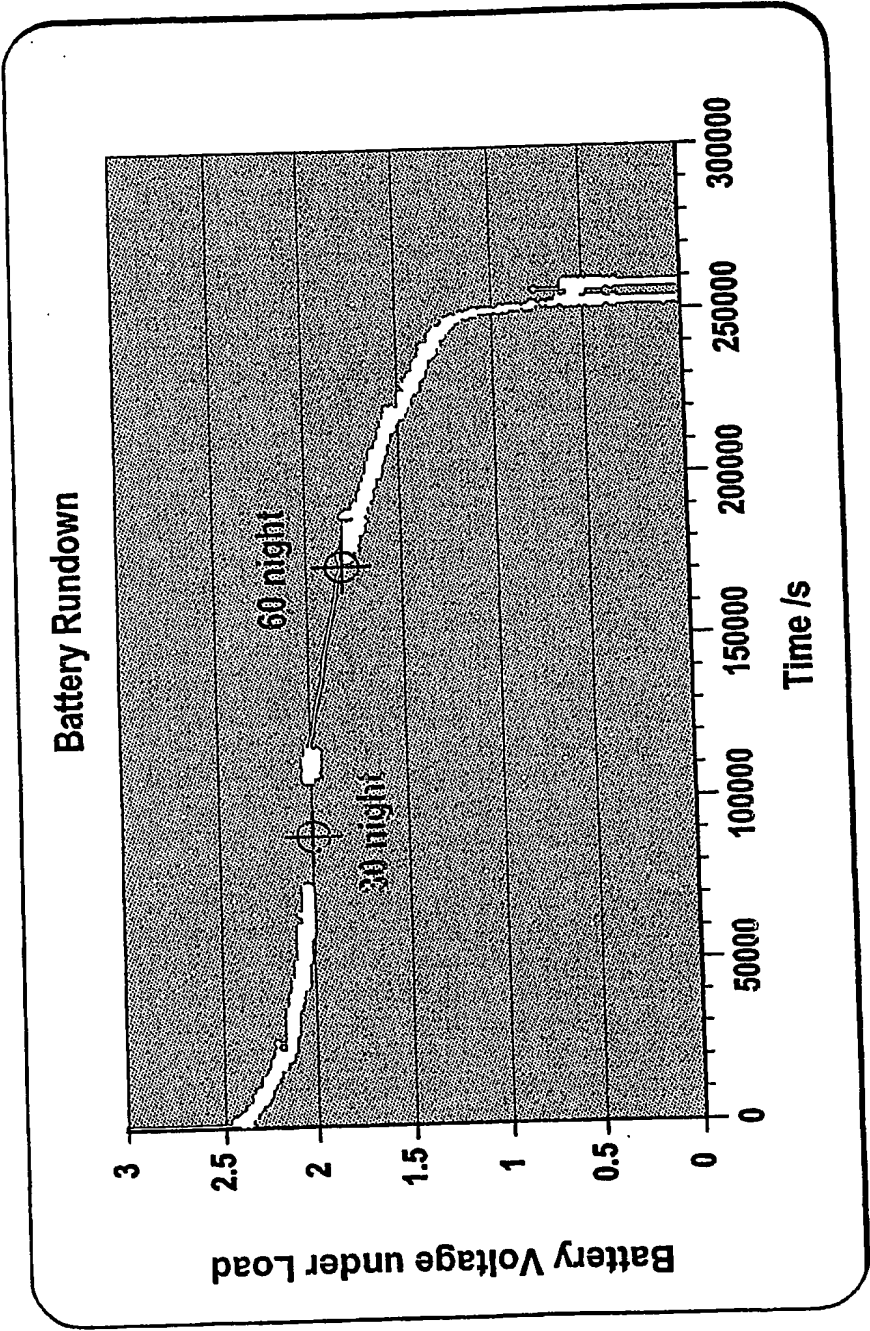
$T_{on} = 0.3 \text{ s}$

$T_{pulse} = 1.7 \text{ s}$

$T_{cycle} = 60 \text{ s}$

% Pulse = 50%

Adaptive Mode



2 x AA quality alkaline batteries give
1 - 2 months performance at 50 $\mu\text{g/hr}$

FIGURE 6

Performance: Bioefficacy

0603

4R7

2 x AA

3V

 $T_{on} = 0.3 \text{ s}$ $T_{pulse} = 1.7 \text{ s}$ $T_{cycle} = 60 \text{ s}$

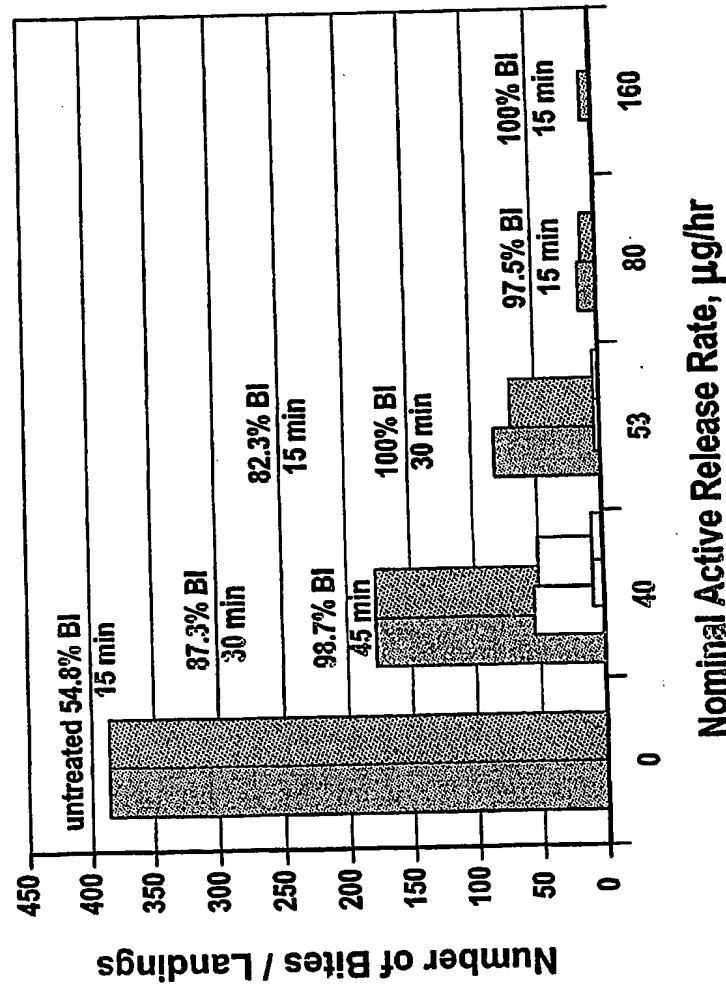
% Pulse = 50%

Adaptive

80 μm wick

100% S1264

Micro Device - Landings and Bites
Ae. aegypti, 100% S1264 Refill, 1s x 610 mW pulses
 Single Replicates



50 $\mu\text{g/hr}$ = 1 x 2s pulse per 3 min 12s
 90% bite inhibition in 15 min (5 replicates)

FIGURE 7